



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/509,344	09/28/2004	Masafumi Matsunaga	NOR-1218	5384

7590 11/28/2007
Kevin G Rooney
Wood Herron & Evans
441 Vine Street
2700 Carew Tower
Cincinnati, OH 45202

EXAMINER

TADESSE, YEWEBDAR T

ART UNIT	PAPER NUMBER
----------	--------------

1792

MAIL DATE	DELIVERY MODE
-----------	---------------

11/28/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/509,344

Applicant(s)

MATSUNAGA ET AL.

Examiner

Yewebdar T. Tadesse

Art Unit

1792

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 September 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 17-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 17-27 is/are rejected.
- 7) ☒ Claim(s) 28-30 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 September 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 09/20/2007 has been entered.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 17, 23 and 25 -27 rejected under 35 U.S.C. 102(b) as being anticipated by Strecker (US 6,691,895).

As to claims 17 and 23, Strecker discloses (see Figs 1-2) a liquid dispensing apparatus comprising: a first vessel (cylinder, 80,280) configured to be filled with liquid; a second vessel (cylinder, 82, 282); a flow passage (224) connecting the first and second vessels, the flow passage configured and arranged to enable the liquid to flow between the first and second vessels (see Fig 2, the liquid coming out of each of the

Art Unit: 1792

cylinders communicate within the flow passage disposed between the two vessels); a valve coupled with the flow passage (224) including a spray nozzle (dispensing tip 39, 239) for dispensing the liquid from the flow passage; a first pressurizing device (70,270) configured to apply a first pressure to the liquid in the first vessel (80, 280); a second pressurizing device (72,272) configured to set a second pressure of the liquid in the second vessel (82, 282); and a first flow rate restricting member (first type of feed screw 250) disposed in the flow passage (screws with drive mechanism 60, 260 in communication with a controller 102) capable regulating a flow rate of the liquid flowing in the passage between the first and second vessels when the first and second pressurizing devices are operated such that the first pressure applied to the liquid in the first vessel differs from the second pressure applied to the liquid in the second vessel.

With respect to claim 25, in Strecker the flow-restricting member includes screws (raising and lowering the screw) correspond to the on/off valve having an orifice as described in applicants' Fig 3.

As to claim 26, Strecker discloses (see Fig 2) vessels that are syringes.

With respect to claim 27, in Strecker the first flow restricting member (250) is disposed in the flow passage between the valve (dispensing tip 239) and the first vessel(80).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 1792

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Strecker (US 6,691,895) in view of Yanagita et al (US 6,540,104).

Strecker lacks teaching the pressurizing device or delivery mechanism using compressed gas to apply pressure to the plunger. However, it is well known in the art to use compressed gas for a delivery mechanism of a plunger or piston type as taught by Yanagita et al (see Fig 4 and columns 2-3, lines 67-68 and 1-4 respectively). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include pressurizing devices or other delivery mechanism using compressed gas to apply pressure to the plunger in Strecker as an alternative way of delivering mechanism of the liquid material and the selection of any of these known equivalents to compressed gas pressurizing means would be within the level of ordinary skill in the art.

Art Unit: 1792

Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Strecker (US 6,691,895) in view of Hunter et al (US 6,672,519). Strecker et al lacks teaching a spray nozzle atomizing the liquid using a gas. However, a spray nozzle using a gas to atomize the liquid material is well known in the art; for instance – Hunter et al discloses (see Fig 4) a spray nozzle using a gas to atomize the liquid material. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a spray nozzle using a gas to atomize the liquid in Strecker to form desired pattern of liquid material (see column 4, lines 41-52).

Allowable Subject Matter

6. Claims 28-30 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is a statement of reasons for the indication of allowable subject matter: prior art of record does not disclose or suggest a liquid dispensing apparatus comprising, among others (claimed in claims 17 and 27) a second restricting member disposed in the flow passage, the second flow rate restricting member configured to regulate a flow rate of liquid flowing in the passage between the first and second vessels.

Response to Arguments

8. Applicant's arguments with respect to claims 17, 21-27 have been considered but are moot in view of the new ground(s) of rejection. As shown in the rejection above Strecker alone and/or in combination with others meet the amended claims 17 and 21-27. Newly added claims 28-30 have been found to allowable over the prior art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yewebdar T. Tadesse whose telephone number is (571) 272-1238. The examiner can normally be reached on Monday-Friday 8:00 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nadine Norton can be reached on (571) 272-1465. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to be 'Yewebdar T. Tadesse', followed by a stylized mark that looks like 'RT'.